

November 7

California Air Resources Board
1001 I Street
Sacramento, California 95814

Re. Fiscal Year 2022-23 Funding Plan for Clean Transportation Incentive Accompanied by Proposed Carl Moyer Program Changes

Highland Electric Fleets (“Highland”) respectfully submits these comments to the California Air Resources Board (CARB) on the “2022-2023 Funding Plan for Clean Transportation Incentive Accompanied by Proposed Carl Moyer Program Changes” that CARB staff released on October 12, 2022.

Highland is the largest buyer of electric school buses (EVSBs) in the country and provides a comprehensive turnkey solution in the form of an electrification-as-a-service (EaaS) contract that delivers EVSBs, charging infrastructure, and supporting services to school districts and third-party managed fleet providers (3PMs). Our model includes vehicle and charging infrastructure financing, infrastructure installation, charge management staff training, electricity purchasing, and maintenance cost coverage in an easily digestible, budget-neutral format that enables EVSB acquisition at traditional diesel pricing. Our mission is to promote better student health and a cleaner environment through school bus electrification.

Electrifying has high initial costs but lower operating costs over time. Highland flattens this cost curve by leveraging tax credits, depreciating assets, and by creating revenue generating opportunities (e.g., demand side management and/or vehicle to grid) — enabling districts to enjoy the benefits of an electric fleet within their existing budget. We enable schools to achieve budget neutrality by helping school districts apply to any available rebates, grants, incentives, etc., including any utility funding that may be available.

We applaud CARB’s allocation of \$2.6 billion for clean mobility and zero-emission transportation, including \$1.26 billion for school bus electrification. This type of historic investment when efficiently administered and paired with other investments by other state agencies will put the state on track to meet its vehicle electrification goals.

We would like to take the opportunity to comment on several components of this Funding Plan.

Overarching Comments

The state of California has made historic and nation-leading investments in both light-duty and, more recently, medium- and heavy-duty (M/HD) zero-emission vehicle ZEV markets. These investments (driven primarily through incentive programs like and including those outlined within this funding proposal) have allowed the state to lead in ZEV deployments and zero emission fueling installations in the country – supporting the nations’ ability to scale ZEV technology.

While the Governor’s Administration, the state legislature, CARB, the California Energy Commission (CEC), and many other state agencies and stakeholders should be celebrated for their tremendous work in driving ZEV adoption, as technology matures and more large-scale deployments come online, the way

in which the state supports this market will need to progress to encourage the development of a sustainable market for ZEVs, including electric school buses (EVSBs).

Within the school bus market, school districts within California are facing several challenges that have limited the adoption of larger deployments of ZEVs despite school bus fleets being well suited for electrification with predictable routes, depot charging, and proven vehicle technology.

School district transportation has been chronically underfunded within the state leading California school districts to have: 1) some of the oldest school bus fleets in the country and 2) some of the smallest fleets per student population in the country. As CARB states within Appendix E of this funding proposal, "Public school districts often do not have the funds to replace their aging school bus fleet. Investing in California's bus fleet is a collective effort amongst agencies on the local, state, and federal level."¹ We strongly encourage the state to continue to fund the deployment of electric school buses and their infrastructure and applaud both the CARB and CEC funding allocations to school bus electrification during fiscal year 2022-2023.

As of August 2021, the state has invested \$1.054 billion in low-emission bus replacement and infrastructure. To date, 1,369 ZEV transit and school buses have been delivered, 446 of which were school buses.² While the implementation of HVIP has been critical to the deployment of these 446 buses, the incentive values and procurement process for these buses has limited the number of buses deployed given the amount of funding available within the state. This is due in part to the high incentive values offered by state level programs, like HVIP.³

In order to create a sustainable market for school districts to achieve the ambitious electrification goals of the state, both CARB and CEC will need to make adjustments to: 1) the amount of funding available per EVSB, 2) increase collaboration amongst state agencies, and 3) allow flexibility in ownership and partnership models to enable wide participation. Only in addressing each of these issues, will the state be able to effectively administer this historic level of programmatic funding for electric school buses and deliver on its goal to create a robust and self-sustaining market for EVSBs that improves air quality and reduces emissions throughout communities across the state. As we outline in more detail below, creating incentive programs that enable the utilization of innovative financing models and allow for the use of public-private-partnerships with trusted entities will lead to a greater number of projects deployed at scale and in a timely and cost-effective manner.

While we believe that, overall, incentive programs should have a declining incentive value overtime– and that it is important for the state to clearly communicate those values to encourage early adoption—we also believe it is important to ensure transportation electrification programs are designed with disadvantaged communities in mind. CARB and CEC should continue to provide higher incentive values

¹ "Appendix E: 2022 SB 1403 School Bus Incentive Program Report," California Air Resources Board. 2022. https://ww2.arb.ca.gov/sites/default/files/2022-10/fy2022_23_funding_plan_appendix_e.pdf.

² "2022-2023 Budget: Green School Bus Grants," Legislative Analyst's Office. 2022. <https://lao.ca.gov/reports/2022/4525/green-school-bus-021022.pdf>.

³ Proprietary analysis conducted on behalf of Highland indicates that electric school bus prices should decline annually through 2030 even when accounting for increased manufacturing costs due to short-term supply chain disruptions. However, bus prices have increased in the past several months across the United States with the release of the EPA Clean School Bus program. A corresponding increase in price has not been seen in other markets outside of the United States (e.g., Canada) indicating that the increase in prices is due in large part to very high incentive values setting the market price for electric school buses. We find the same phenomenon has happened within the state of California due in larger part to the very high incentive levels for electric school buses.

for disadvantaged or environmental justice communities by creating a percentage adder for communities that qualify.

We respectfully submit the following recommendations to support the development of a sustainable market for M/HD ZEVs, particularly EVSBs within the state.

- 1) Reduce the incentive values for EVSBs and create a declining price structure. Prices for EVSBs sold in California are significantly higher than EVSB prices throughout the rest of the country with prices averaging at or above \$400,000/bus (between \$50,000 - \$100,000 more expensive than EVSBs sold in the rest of the country).⁴ These inflated prices are due in part to existing EVSB voucher incentives which are determined by prices set by EVSB sellers within the state. To create a sustainable EVSB market within the state, the voucher incentive value will need to decline overtime to encourage price decreases as more EVSBs enter the market. Much like transit and drayage truck installations, funding for school bus electrification will be needed beyond 2024 and should continue to be supported. CARB should set voucher incentive levels for the next several years publicly and have the value of those incentives decline overtime to encourage early adoption and to support market development and innovation.

We recognize, given the prescriptive nature of the general fund allocations, that it is unlikely that additional funding will go directly into the programs that are funded by the general fund, including most funding currently allocated towards EVSBs. This does not however preclude CARB from declining incentive values, as it is currently doing in other M/HD vehicle segments, for EVSBs. Modifying clean transportation incentive programs across state agencies to allow the ZEV market to mature from pilots to fully scaled project deployments will ensure that state investments will lead to the development of a sustainable market for ZEVs within M/HD, including EVSB, markets.

- 2) Allow flexibility in ownership and partnership models to enable wide participation. Within all school bus electrification funding opportunities, CARB should allow school districts to partner with third parties, like EaaS providers, to assist in the development of these projects. These verified entities should be allowed to request HVIP vouchers on behalf of the purchaser. CARB should not solely rely on school bus dealers to manage voucher submissions as it does in the current program. Enabling flexibility in ownership/innovative financing models will enable more school districts to participate. These types of public private partnerships can leverage additional funding streams (e.g., Inflation Reduction Act tax credits among other federal funding opportunities) which can lower the cost of electrification thereby enabling an increased number of school districts that are able to electrify and an increased number of vehicles electrified within a given fleet.
- 3) Increased collaboration across state agencies to streamline the application process. School districts across the state of California—due in part to previously allocated funding for EVSBs—have procured one EVSB and, often, have mixed experiences with getting the appropriate technical support needed to charge and operationalize their electric bus(es). CARB and CEC have recently committed to collaborating more closely on the EnergIIZE and HVIP incentive programs to ensure that infrastructure and vehicle funds are more seamlessly paired. We applaud both agencies desire to lower the administrative burdens associated with receiving both EVSE and EVSB funding. These tasks—which often require

⁴ Highland proprietary market research and analysis.

not only understanding multiple differing incentive program deadlines and application processes but also require an intimate understanding of technology components (e.g., vehicle and charger compatibility) —create a large burden for fleet operators looking to electrify their fleet and can lead to EVSB funded by the state being underutilized. It is imperative that CARB and CEC work together to facilitate seamless funding processes that yield at scale projects within school districts. CARB should work closely with CEC to ensure incentive values are raised for projects making long-term electrification commitments (e.g., infrastructure for full electrification). Highland looks forward to reviewing and commenting on the proposed changes in 2023.

Not only should the state make investments to upgrade existing school bus fleets, but it should also work with school districts to increase the percentage of the state's student population served by school buses. Currently, 68 percent of students in the state get a private ride to school each day.⁵ Increasing the number of students transported to school via school bus each day would dramatically reduce vehicle miles traveled (VMT) and would ensure that all students have a safe and reliable ride to school each day. These considerations meet important objectives set by CARB in this transportation funding proposal: 1) to increase clean mobility and reduce VMT and 2) to equitably deliver zero emission transportation solutions.

Heavy-Duty Vehicle and Off-Road Equipment Project Allocations

We applaud CARB for its revisions to the HVIP program including: 1) lowering incentive amounts for certain vehicle types, 2) supporting rolling incentive programs and utilizing HVIP standard funding if set-aside funding is exhausted to creating greater market certainty. Each of these actions displays CARB's willingness to modify its programming to better fit the needs of a maturing market. In addition to the above HVIP revisions, CARB should consider the following recommendations.

- Support and enable the use of EaaS companies as trusted public-private-partners within the HVIP process.

CARB should modify its HVIP process to explicitly allow for partnerships between different types of entities (e.g., schools, electrification companies, dealers, etc.) and should signal that the applications satisfy public procurement requirements. These types of partnerships have tremendous value in ensuring that state funding is efficiently used and that scalable projects are deployed. CARB should increase education and awareness surrounding innovative financing opportunities like those enabled by an EaaS partnership. As previously stated, these public-private partnerships not only allow school districts to have greater access to funding (e.g., tax credits) but can also offer a more streamlined and efficient way for fleets to electrify at scale.

- Modify voucher amounts and incentivize projects that scale. As we described above, we believe that the state should evaluate and lower its school bus incentive voucher amounts as it has done for other eligible HVIP vehicle types. Highland looks forward to commenting on staff's proposed adjusted funding amounts for the deployment of Proposition 98 funds in 2023. Highland supports CARB's proposal to enable increased funding for advanced technology projects that support the state's climate and energy resiliency goals such as vehicle to grid functional EVSBs.
- Avoid incentive mechanisms that put price setting entities in control. Explicitly allow for partnerships between different types of entities (e.g., schools, electrification companies, dealers, etc.) and signal that the applications satisfy public procurement requirements.

⁵ Mackenzie Mays, "After years of cuts, California could provide school buses for all kids." Los Angeles Times <https://www.latimes.com/california/story/2022-02-03/california-students-more-school-buses-legislation>.

Clean Mobility Investment Program

As stated above, we believe that school bus electrification supports the goals and objectives outlined within the clean mobility investment program and therefore recommend that EVSB projects that increase the number of students traveling to school via EVSB (e.g., projects that increase routes within a school district) should be funded under the clean mobility investment program in addition to the state's traditional school bus electrification funding pools (e.g., HVIP, EnergIZE, among others).

Highland appreciates the opportunity to submit these comments.

Best Regards,

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